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Federal Communications Commission
Office of the Secretary

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93-177
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FEDERAL EXPRESS

February 14, 1991

Ms. Donna R. Searcy
Secretary - F C C
1919 M Street, N.W. Rm#222
Washington, DC 20554
(202) 632-6410

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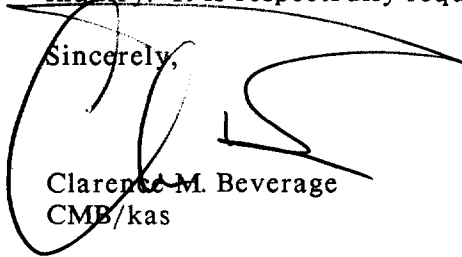
MAIL BRANCH

RE: COMMENTS IN RM-7594

Dear Ms. Searcy:

Please find attached, an original and four (4) copies of our firm's comments in the above noted inquiry. It is respectfully requested that this filing be accepted as late filed comments.

Sincerely,


Clarence M. Beverage
CMB/kas

Enclosure

fc: SEARCY

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FEB 15 1991

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

Federal Communications Commission
Office of the Secretary

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MAIL BRANCH

RM No. 7594

In the Matter of

An Inquiry into the)
Commission's Policies and)
Rules Regarding AM)
Directional Antenna)
Performance Verification)

COMMENTS OF COMMUNICATIONS TECHNOLOGIES, INC.

SUMMARY

Communications Technologies, Inc. is a New Jersey Corporation whose principle function is to provide services to clients concerning the technical aspects of radio and television broadcasting. As such, the firm is regularly engaged in technical matters before the Commission and submits the following comments in the above noted matter.

These comments are filed in support of a Joint Petition for Inquiry filed by five engineering firms ("Petitioners") known to the broadcast engineering community and regularly engaged in technical matters before the Commission concerning performance verification of AM directional antenna systems, RM-7594. Communications Technologies, Inc. ("C T I") fully supports the concept of modernizing the Commission's Rules to take full advantage of current technologies and the associated cost savings. However, C T I urges caution on the Commission's part with regard to this process.

GENERAL COMMENTS

The real world implementation and operation of each and every directional antenna system is unique to the local environment. The presence, or lack thereof, of nearby buildings, towers, power lines, mountains, rivers and man-made structures have an effect on the horizontal plane and elevation radiation patterns.

CONSTRUCTION AND MONITORING

In order for the computed pattern to be realized, the physical system must be implemented in accordance with the data input. Should the Commission agree that greater reliance can be placed on the computation of real world radiation patterns, it will be necessary that the physical implementation be closely verified and certified by the licensee when the 302 Application for License is filed.

FIELD INTENSITY MEASUREMENTS

With more accurate computation of the radiation pattern, it should be unnecessary to conduct extensive non-directional and directional field intensity readings now required by *Section 73.151*. C T I would suggest the following as a point of discussion:

1. Radial field measurements would be made only on the major lobe and each null.
2. The current requirement of conducting measurements at intervals on the ground is time consuming, expensive and out-moded. Aerial measurements should be allowed as a matter of course, utilizing an airplane or helicopter, providing that basic requirements are met to assure accuracy and repeatability.

It is believed that aerial field intensity readings, coupled with fewer radials, would

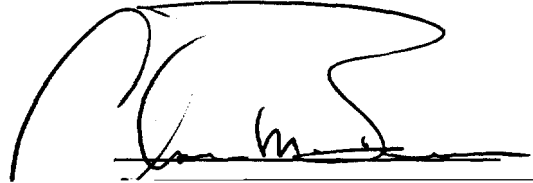
CONCLUSION

Numerical methods are available to accurately predict directional radiation in many environments. *Section 73.150 and 73.152* could be replaced by a standard implementation of NEC-2 to achieve greater computational accuracy. Field intensity readings need not be run to the extent required by *Section 73.151* if the physical environment around the antenna system has been adequately analyzed. Great savings in expense could be realized by allowing aerial measurements which would eliminate the need for topographic map exhibits and plots of measurement data.

14, February 1991

Respectfully submitted,

Communications Technologies, Inc.
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A handwritten signature in black ink, appearing to be "John M. Smith", written over a horizontal line.